

60V DUAL N-CHANNEL ENHANCEMENT MODE MOSFET

MAIN CHARACTERISTICS

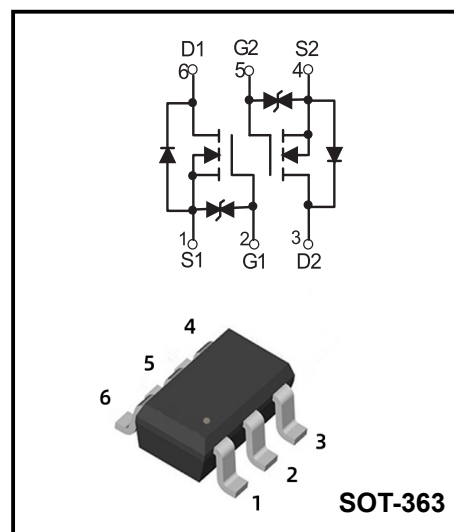
I_D	300mA
V_{DSS}	60V
$R_{DS(on)-typ}(@V_{GS}=10V)$	$< 5\Omega$ (Typ:0.9 Ω)
$R_{DS(on)-typ}(@V_{GS}=4.5V)$	$< 5.3\Omega$ (Typ:1.1 Ω)

Features

- High density cell design for Low RDS (on)
- Voltage controlled small signal switch
- Rugged and reliable
- High saturation current capability
- ESD protected

Application

- Load Switch for Portable Devices
- DC/DC Converter



Marking Code	
2N7002KDW	72K

MOSFET MAXIMUM RATINGS (Ta = 25°C unless otherwise noted)

Characteristics	Symbols	Value	Units
Drain-Source Voltage	V_{DS}	60	V
Gate - Source Voltage	V_{GS}	± 20	V
Continuous drain current	I_D	300	mA
Power Dissipation	P_D	0.15	W
Operating Temperature Range	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C
Thermal Resistance, Junction--Ambient	$R_{\theta JA}$	833	°C/W

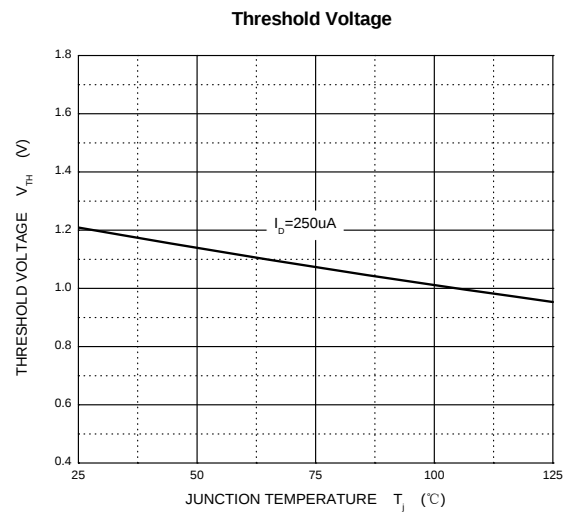
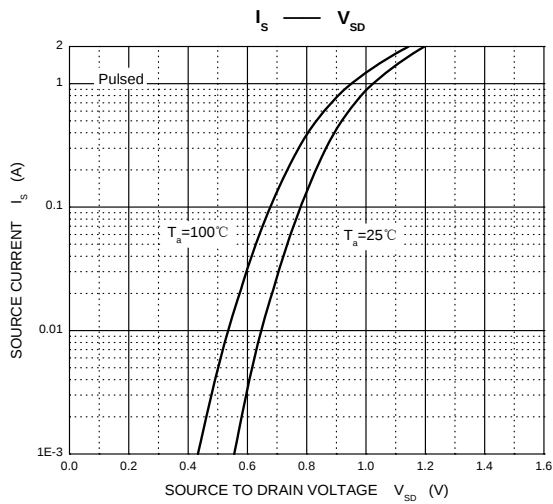
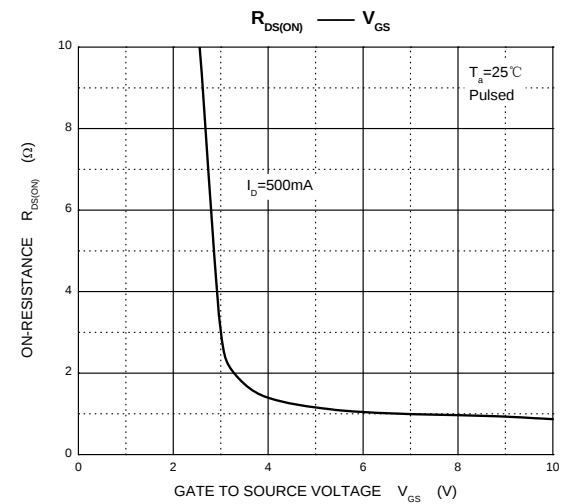
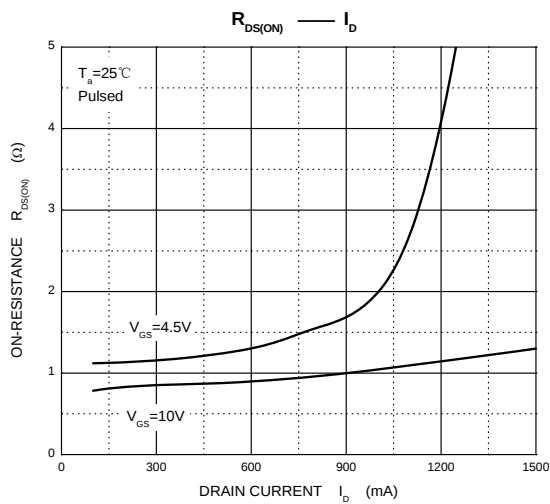
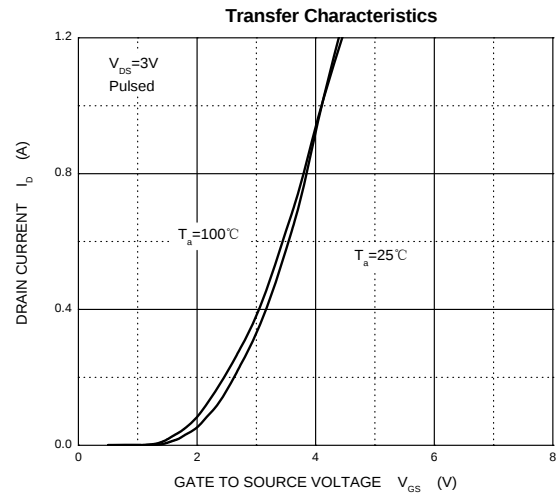
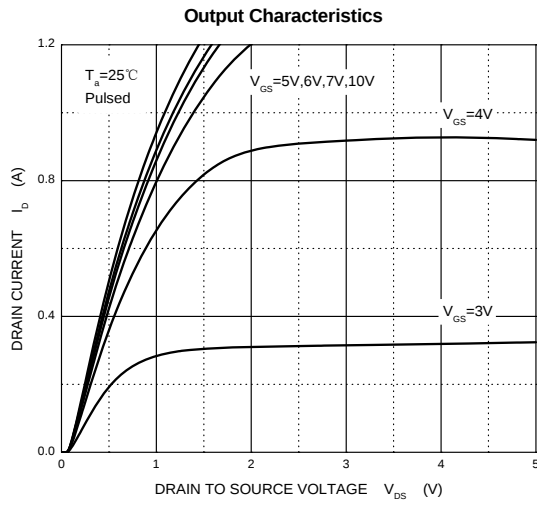
Maximum Ratings at Ta =25°C unless otherwise specified

Characteristics	Test Condition	Symbols	Min	Typ	Max	Units
Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	BV_{DSS}	60	-	-	V
Gate-Source Threshold Voltage*	$V_{DS}=V_{GS}, I_D=1mA$	$V_{GS(th)}$	1	1.3	2.5	V
Drain-Source Leakage Current	$V_{DS}=48V, V_{GS}=0V$	I_{DSS}	-	-	1	μA
Gate-Source Leakage Current	$V_{GS} = \pm 20V, V_{DS} = 0V$	I_{GSS}	-	-	± 10	μA
Drain-source on-state resistance*	$V_{GS}=10V, I_D=500mA$	$R_{DS(on)}$	-	0.9	5	Ω
	$V_{GS}=4.5V, I_D=200mA$		-	1.1	5.3	
Drain-Source Diode Forward Voltage	$I_S=300mA, V_{GS}=0V$	V_{SD}	-	-	1.5	V
Recovered charge	$V_{GS}=0V, I_S=300mA, V_R=25V, dI_S/dt=-100A/\mu s$	Q_{rr}	-	30	-	nC
Input Capacitance**	$V_{DS}=10V$ $V_{GS}=0V$ $f=1MHz$	C_{iss}	-	-	40	pF
Output Capacitance**		C_{oss}	-	-	30	
Reverse Transfer Capacitance**		C_{rss}	-	-	10	
Turn-On Delay Time**	$V_{GS}=10V, V_{DD}=50V, R_G=50\Omega, R_{GS}=50\Omega, R_L=250\Omega$	$t_{d(on)}$	-	-	10	ns
Turn-Off Delay Time**		$t_{d(off)}$	-	-	15	
Reverse recovery Time**	$V_{GS}=0V, I_S=300mA, V_R=25V, dI_S/dt=-100A/\mu s$	T_{rr}	-	30	-	
Gate-Source Breakdown Voltage	$I_{GS}=\pm 1mA$ (Open Drain)	BV_{GSO}	± 21.5	-	± 30	V

Notes :

*Pulse Test : Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.

**These parameters have no way to verify



Ordering information

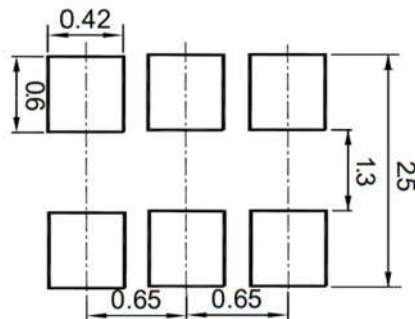
Package	Packing Description	Packing Quantity
SOT-363	Tape/Reel, 7" reel	3000PCS/Reel 120000PCS/Carton

Package Dimensions

SOT-363

Dim.	Millimeter(mm)		mil	
	Min.	Max.	Min.	Max.
A	0.8	1.1	32	43
A1	-	0.1	-	3.94
bp	0.20	0.30	7.87	11.81
c	0.10	0.25	3.94	9.84
D	1.8	2.2	70.87	86.61
E	1.15	1.35	45.28	53.15
e	1.3		51.18	
e1	0.65		25.6	
HE	2.0	2.2	78.74	86.6
Lp	0.15	0.45	5.90	17.71
Q	0.15	0.25	5.90	9.84
v	0.2		7.78	
w	0.2		7.78	
y	0.1		3.94	

The recommended mounting pad size



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